

**REMARKS**

Claims 1-7 are now in the application. No claims have been amended by this Response. No new matter has been added.

Claims 1-3, 6, and 7 are rejected under 35 U.S.C. §102(b) as being anticipated by US Patent No. 5,650,106 to Paquet et al.

Claim 1 recites, among other features, an expandable, pelletized styrene polymer material. At least this feature of independent claim 1 cannot reasonably be considered to be suggested in Paquet.

Paquet suggests extruded foams of a monovinyl aromatic polymers (XPS). However, Paquet fails to suggest expandable pelletized styrene polymer material (EPS). The extruded monovinylaromatic polymer foams suggested in Paquet are neither expandable nor pelletized. The foam is normally formed into a sheet or plank (Col. 5, lines 25 to 33). The process is described at col. 3, line 66 to col 4, line 24. The foamable gel is extruded or conveyed through a die of desired shape to a zone of reduced or lower pressure to form the foam structure (Col. 4, lines 17 to 24 and claim 1, step d)). During this step expansion and formation of the foam product is effected (Col. 6, lines 3 to 5).

In contrast hereto, the styrene polymer according to the claimed subject matter is pelletized and expandable (EPS), since the pelletizing is conducted under pressure, as recited in step e of claim 4. The expandable pelletized styrene polymer may be stored, shipped, and expanded (prefoamed) and fused to foam moldings at a different time and location. See page 7, lines 11 to 16, of Applicants' disclosure. The prefoaming and molding steps are normally carried out at a separate location. XPS and EPS are therefore totally different products.

Moreover, the Office Action asserts that Paquet suggests a polymer material comprising 95% by weight of a polystyrene having a weight-average molecular mass ( $M_w$ ) of 247,000 and 5% by weight of a styrene co-polymer having a  $M_w$  of 4,500.

Paquet cannot reasonably be considered to suggest the features that the Office Action attributes to this citation. Paquet suggests extruded foams having a broad molecular weight distribution, a fraction of which has a  $M_w$  of greater than 1,000,000. At col. 6, lines 40-46, Paquet suggests control foams comprising 10% of styrene-alpha-methyl styrene copolymer (SaMS) having a  $M_w$  of 4,500.

However, runs 9-11 of the control foams suggested in Table 3 of Paquet are not made from the broad distribution resin #1 having a  $M_w$  of 247,000, as asserted in the Office Action, but from broad distribution resin #2 having a  $M_w$  of 143,000. Similarly, control resin #1, which is mixed with 10% of SaMS in runs 1-4 of Table 3, has a  $M_w$  of 136,800. Accordingly, the compositions suggested in Table 3 of Paquet do not comprise polystyrene with a  $M_w$  of from 160,000 to 400,000, as recited in claim 1.

In addition, Paquet suggests blends of a styrene polymer comprising a mixture of a polymer having an average molecular weight of about 100.000 to 250.000 and a polymer having a weight-average molecular weight of about 500.000 to 1.000.000 (see claim 1 of Paquet). The SaMS copolymer having a weight-average molecular weight of 4500 is only used in control foams in combination with Control Resin #1 or Broad Distribution resin #2. Both resins have a weight-average molecular mass lower than 160.000.

Thus, Paquet does not suggest compositions comparable to the polymer recited in claim 1 of the present application. In contrast to using very low weight-average molecular weight styrene copolymers, Paquet suggest the use of a monovinylaromatic polymer having a very high weight-average molecular weight as second component

Claim 4 is rejected under 35 U.S.C. §103(a) as being unpatentable over Paquet in view of EP 0 126 459 to Biglione et al.

The person skilled in the art would not consider combining Biglione with Paquet because the two citations are not concerned with the same field of endeavor. As discussed above, Paquet does not relate to expandable styrene polymer granules (EPS) or a process for producing EPS. In

contrast to Paquet, however, the process according to Bigline et al. is directed to expandable granules and the granulation is carried out under pressure.

Claim 5 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Paquet in view of US Patent No. 5,010,111 to Hahn et al.

As discussed above, Paquet fails to suggest expandable styrene polymer granules. The foamable gel is directly extruded into a foam sheet or plank. Therefore, it is neither in pelletized form nor expandable and cannot be prefoamed with hot air or steam to give foam beads. Accordingly, a person skilled in the art has no motivation to combine Paquet with Hahn because the low weight-average molecular weight styrene copolymer, which is only used in the comparative examples, is described as being less effective than high average-weight molecular weight styrene polymers (Col 6, lines 51 to 67).

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Applicants concurrently herewith submit the requisite fee for a Petition for a one-month Extension of Time. Applicants believe no additional fees are due with this response. However, if a fee is due, please charge our Deposit Account No. 03-2775, under Order No. 12810-00264-US1 from which the undersigned is authorized to draw.

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Respectfully submitted,

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